What is claimed is:

1. A mount suitable for passive-active vibration isolation in association with variable loading, said mount comprising a first member for attaching to a first entity, a second member for attaching to a second entity, at least one streamlined resilient member, and at least one structurally-positionally and functionally-directionally collocational combination of a sensor and an actuator; each said streamlined resilient element at least substantially consisting of an elastomeric material and being interposed between said first member and said second member; each said streamlined resilient element being characterized by low dynamic load transmissibility of vibration in approximately the same frequency bandwidth over a broad loading range; said at least one streamlined resilient element thereby being capable of effectuating overall passive reduction of the transmission of vibration from said first member to said second member; said overall passive reduction being of vibration in approximately the same first frequency bandwidth over a broad loading range of said first entity; each said collocational combination having a corresponding region of said second member; each said collocational combination being capable of generating a sensor signal and an actuator vibratory force; said sensor signal being representative of the local

vibration in the corresponding region and being representable as a control signal; said vibratory force being representative of said control signal; each said collocational combination thereby being capable of effectuating, in the corresponding region, localized active reduction of the transmission of local vibration which has reached said second member subsequent to the effectuating of said overall passive reduction; said localized active reduction being of vibration in a non-first frequency bandwidth which differs from said first frequency bandwidth.

2. A mount as recited in claim 1, wherein at least one said streamlined resilient element includes at least one truncation surface, each said truncation surface adjoining one of said first member and said second member.

3. A mount as recited in claim 1, wherein each said streamlined resilient element at least substantially describes a shape which is selected from the group consisting of sphere, prolate spheroid, cylinder, torus and torus segment.

4. A mount as recited in claim 3, wherein at least one said streamlined resilient element includes at least one truncation surface,

each said truncation surface adjoining one of said first member and said second member.

5. A mount as recited in claim 4, wherein:

said first member approximately describes a first plane;

said second member approximately describes a second plane which is approximately parallel to said first plane;

if said streamlined resilient element at least substantially describes a cylinder shape, said streamlined resilient element approximately defines a longitudinal axis which is approximately parallel to said first plane and said second plane;

if said streamlined resilient element at least substantially describes a torus shape, said streamlined resilient element approximately defines a longitudinal axis which lies in a third plane which is approximately parallel to said first plane and said second plane; and

if said streamlined resilient element at least substantially describes a torus segment shape, said streamlined resilient element approximately defines a longitudinal axis which lies in a third plane which is approximately parallel to said first plane and said second plane.

6. A mount as recited in claim 3, wherein:

said first member approximately describes a first plane;

said second member approximately describes a second plane which is approximately parallel to said first plane;

if said streamlined resilient element at least substantially describes a cylinder shape, said streamlined resilient element approximately defines a longitudinal axis which is approximately parallel to said first plane and said second plane;

if said streamlined resilient element at least substantially describes a torus shape, said streamlined resilient element approximately defines a longitudinal axis which lies in a third plane which is approximately parallel to said first plane and said second plane; and

if said streamlined resilient element at least substantially describes a torus segment shape, said streamlined resilient element approximately defines a longitudinal axis which lies in a third plane which is approximately parallel to said first plane and said second plane.

7. A mount as recited in claim 1, wherein said broad loading range associated with said overall passive reduction is between a minimum load value and a multiple load value of the minimum load value, and wherein said multiple load value is between approximately ten times and approximately one hundred times said minimum load value.

8. A vibration isolator which is adapted for engagement with a processor/controller, said processor/controller being capable of generating a control signal, said vibration isolator comprising:

a spring assembly which includes a top member for securing said spring assembly with respect to an isolated entity, a bottom member for securing said spring assembly with respect to an isolatee entity, and at least one interposed streamlined resilient member, each said streamlined resilient member being at least substantially composed of an elastomeric material, each said streamlined resilient member having the property of passively reducing vibration within a special passive-reduction-related frequency bandwidth which is at least substantially constant when said streamlined resilient member is subjected to a wide range in terms of the degree of loading, said at least one streamlined resilient member thereby being capable in net effect of passively reducing vibration within a general passive-reduction-related frequency bandwidth which is at least substantially constant when said streamlined resilient member is subjected to a wide range in terms of the degree of loading which is associated with at least one of said isolated entity and said isolatee entity;

at least one sensor, each said sensor being coupled with said bottom member and being capable of generating a sensor signal which is in

accordance with the vibration in a local zone of interest in said bottom member; and

at least one actuator, each said actuator being coupled with said bottom member and being collocationally paired with one said sensor so as to share approximate coincidence with respect to both physical situation and operational direction, each said actuator being capable of generating, in said local zone of interest of said sensor with which said actuator is collocationally paired, a vibratory force which is in accordance with said control signal, wherein said control signal is in accordance with said sensor signal which is generated by said sensor with which said actuator is collocationally paired, wherein said vibratory force has the tendency of actively reducing vibration within an active-reduction-related frequency bandwidth which differs from said general passive-reduction-related bandwidth.

9. A vibration isolator as defined in claim 8, wherein said general passive-reduction-related bandwidth is approximately commensurate with said special passive-reduction-related bandwidth.

10. A vibration isolator as defined in claim 8, wherein at least one said streamlined resilient element includes at least one truncation surface,

each said truncation surface adjoining one of said top member and said bottom member.

11. A vibration isolator as defined in claim 8, wherein:

to at least a substantial degree, each said streamlined resilient element has a shape which is selected from the group consisting of spherical, prolate spheroidal, cylindrical, toroidal and segmentedly toroidal;

said top member has a top member bottom surface which approximately defines an upper plane;

said bottom member has a bottom member top surface which approximately defines a lower plane which is approximately parallel to said upper plane;

if said shape is cylindrical, said streamlined resilient element approximately defines an imaginary central axis which is approximately intermediate and approximately parallel to said upper plane and said lower plane;

if said shape is toroidal, said streamlined resilient element approximately defines an imaginary central axis which lies in a third plane which is approximately intermediate and approximately parallel to said first plane and said second plane; and

if said shape is segmentedly toroidal, said streamlined resilient element approximately defines an imaginary central axis which lies in a third plane which is approximately intermediate and approximately parallel to said first plane and said second plane.

12. A vibration isolator as defined in claim 11, wherein at least one said streamlined resilient element includes at least one truncation surface, each said truncation surface adjoining one of said top member and said bottom member.

13. A vibration isolator as defined in claim 8, wherein said wide range, in terms of the degree of loading which is associated with at least one of said isolated entity and said isolatee entity, is approximately a range which is between a minimum loading value and a maximum loading value, said maximum loading value being between ten times and one hundred times said minimum loading value.

14. A vibration isolation system; said vibration isolation system being for reducing the transmission of vibration of a first entity to a second entity; said vibration isolation system comprising a spring assembly and a feedback loop system; said spring assembly being for effectuating global

passive vibration control; said feedback loop system being for effectuating localized active vibration control subsequent to said effectuating of said global passive vibration control; said spring assembly including a first securement member, a second securement member and at least one interposed streamlined resilient element; said first securement member being for securing said spring assembly with respect to said first entity; said second securement member being for securing said spring assembly with respect to said second entity; said at least one streamlined resilient member being essentially elastomeric; said at least one streamlined resilient element passively reducing the transmission of vibration of said first entity to said second entity; said passively reduced vibration existing in at least a first frequency bandwidth; said first frequency bandwidth being generally constant within a broad scope of the amount of loading upon said at least one streamlined resilient element by at least one of said first entity and said second entity; said feedback loop system including at least one sensor, a PID-type controller and at least one actuator; said at least one sensor being coupled with said second securement member; each said sensor generating a sensor signal which is a function of the vibration in a localized control area of said second securement member; said PID-type controller generating at least one control signal which is a function of said at least one sensor signal; said at least one actuator being coupled

with said second securement member; each said actuator generating, in said localized control area, a vibratory force which is a function of a said control signal; said at least one actuator, by said generating, reducing the transmission of vibration of said first entity to said second entity; said vibration existing in at least a second frequency bandwidth; said at least a first frequency bandwidth and said at least a second frequency bandwidth being generally dissimilar; said at least one sensor and said at least one actuator being collocated whereby each said sensor and one said actuator are approximately coincident and whereby the sensing of each said sensor and the actuation of the corresponding said actuator are approximately in the same direction.

15. The vibration isolation system according to claim 14, wherein at least one said streamlined resilient element at least substantially defines a spherical shape.

16. The vibration isolation system according to claim 14, wherein at least one said streamlined resilient element at least substantially defines a prolate spheroidal shape.

17. The vibration isolation system according to claim 14, wherein at

least one said streamlined resilient element at least substantially defines a cylindrical shape.

18. The vibration isolation system according to claim 14, wherein at least one said streamlined resilient element at least substantially defines a torus shape.

19. The vibration isolation system according to claim 14, wherein at least one said streamlined resilient element at least substantially defines a segmented torus shape.

20. The vibration isolation system according to claim 14, wherein at least one said streamlined resilient element includes at least one truncation surface, each said truncation surface adjoining one of said first securement member and said second securement member.

21. The vibration isolation system according to claim 14, wherein said broad scope of the amount of loading approximately ranges between a minimum loading amount and a maximum loading amount, and wherein said maximum loading amount is approximately between ten times and one hundred times said minimum loading amount.

22. Apparatus for both passively and actively isolating the vibration of a structure situated over a foundation, said apparatus comprising:

a processor/controller;

a spring device which passively reduces the transmission of said vibration from said structure to said foundation, said spring device including an upper member for fixing said spring device with respect to said structure, a lower member for fixing said spring device with respect to said foundation, and at least one streamlined resilient element, wherein:

each said streamlined resilient element is elastomeric and is so configured as to at least substantially exhibit the attribute of effecting passive reduction of the vibration existing at least nearly the identical frequency band over a significant range of the degree of loading imposed upon said streamlined resilient element;

said significant range is between a minimum degree of loading and a maximum degree of loading;

said maximum degree of loading is no less than about ten times said minimum degree of loading;

said maximum degree of loading is no more than about one hundred times said minimum degree of loading; and

said streamlined resilient element is so configured as to at least substantially describe one of a sphere, a prolate spheroid, a

cylinder, a torus and a torus segment; and

at least one collocation of a sensor and an actuator wherein, for each said collocation:

said sensor and said actuator are each coupled with said lower member so as to be approximately identically located and approximately identically directed;

said sensor senses the local vibration in a portion of said lower member and produces an electrical sensor signal commensurate with said local vibration;

said processor/controller receives said electrical sensor signal from said sensor and produces an electrical control signal commensurate with said electrical sensor signal; and

said actuator receives said electrical control signal from said processor/controller and produces in said portion of said lower member a vibratory force commensurate with said electrical control signal, said vibratory force increasing the stability of said portion of said lower member, said actuator thereby effecting active reduction of the transmission of said vibration from said structure to said foundation whereby, in succession, said spring device passively reduces the transmission of said vibration and said actuator actively reduces the transmission of said vibration.

23. The apparatus according to claim 22, wherein at least one said streamlined resilient element is at least slightly truncated for facilitating connection to said upper member.

24. A method for reducing transmission of vibration of a first entity to a second entity, said method comprising:

providing a spring assembly which includes at least one streamlined resilient member, an upper securement member and a lower securement member, said at least one streamlined resilient member being essentially elastomeric and being for passively reducing the transmission of vibration existing in at least a first plurality of frequencies, said first plurality of frequencies falling within a generally constant bandwidth in relation to a range of loading imposed upon said at least one streamlined resilient element by at least one of said first entity and said second entity, said range being between a minimum degree of loading and a maximum degree of loading, said maximum degree of loading being no less than about ten times said minimum degree of loading, said maximum degree of loading being no more than about one hundred times said minimum degree of loading, each said streamlined resilient element being shaped so as to at least substantially describe one of a sphere, a prolate spheroid, a cylinder,

a torus and a torus segment; and

engaging with said spring assembly a feedback loop system, said engaging including:

establishing at least one collocation of a said sensor with a corresponding said vibratory actuator so that said sensor and said corresponding said vibratory actuator are each coupled with said lower securement member at approximately the same location, and so that said sensor senses and said corresponding said vibratory actuator actuates in approximately the same direction and in approximately the same locality of said lower securement member;

connecting each said sensor and each said vibratory actuator with a processor/controller so that, for each said collocation, said sensor generates a sensor signal representative of the vibration of said locality, said processor-controller generates a control signal representative of said sensor signal, and said vibratory actuator generates a vibratory force representative of said control signal; and

providing power for said feedback loop system; and

mounting said first entity with respect to said second entity, said mounting including fastening said first entity with respect to said upper securement member and fastening said second entity with respect to said lower securement member;

wherein, in series, said spring assembly effects passive reduction of said vibration at said first plurality of frequencies, then said feedback loop system effects active reduction of said vibration at a second plurality of frequencies; and

wherein at least one frequency among said second plurality of frequencies is not among said first plurality of frequencies.

25. A method for reducing transmission of vibration as recited in claim 24, wherein said providing a spring assembly includes:

providing a streamlined resilient element which has a first truncation surface and a second truncation surface opposite said first truncation surface; and

joining said streamlined resilient element with each of said upper securement member and said lower securement member so that said first truncation surface abuts said upper securement member, and so that said second truncation surface abuts said lower securement member.

26. A method for reducing transmission of vibration as recited in claim 25, wherein said providing a streamlined resilient element includes effecting said first truncation surface and effecting said second truncation surface.